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ABSTRACT

Vocational enrollment is declining because of an increase in academic requirements. Because job skills are changing so rapidly, employers are increasingly choosing to provide their own vocational training to students who have mastered standard academic requirements. However, the lack of hands-on methodology in academic curricula and the lack of real-world field-specific applied experience on the part of academic faculty have resulted in a lack of relevant applications in contemporary academic curricula. School administrators can take advantage of these converging trends by using vocational faculty within the academic curriculum. Instructors from the areas of agriculture, business, home economics, and industrial arts could be used to teach students needed practical skills. This would give all students (not just those who are perceived as unfit for college preparatory courses) an opportunity to acquire much-needed daily living skills in the areas of home maintenance, meal preparation and clothing upkeep, auto maintenance, and personal finance. The course would be structured so that a group of teachers would rotate a group of classes between them, with students changing teachers every quarter of the school year. Requiring such a course instead of an elective would serve as a useful step in integrating vocational and academic curricula, while at the same time using the skills of vocational teachers whose class enrollments have been declining. (MN)

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What Should We Do About the Decline in Vocational Enrollment?

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INTRODUCTION

Vocational enrollment has declined over the last few years due to an increase in academic requirements. These academic requirements have increased to reflect the changing nature of the work place.

Current jobs require a median 12.8 years of schooling. New jobs require a median 13.5 years of schooling.

Here is a more detailed breakdown of the situation, comparing the educational requirements of new jobs with all existing jobs:

College Graduate	35%	New
	30	Present
1-3 years of college	22%	New
	20	Present
High School Graduate	35%	New
	40	Present
1-3 years of high school	12%	New
	14	Present
8 years or less	5%	New
	7	Present

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If one partitions all jobs into six categories, according to level of education required, and compare the situation in 1986 with the projected situation in 2000, one can see that low skilled jobs are declining:

Lower education required	1	10%	1986
		5	2000
	2	31	1986
		25	2000
	3	35	1986
		34	2000
	4	20	1986
		30	2000
	5	5	1986
		10	2000
Higher education required	6	1	1986
		2	2000

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(Johnston, William, Workforce 2000. Indianapolis, Indiana: Hudson Institute, 1988.)

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Employers increasingly want to provide their own vocational training to students who have mastered the basic skills since job-skills change so rapidly. What they do not want to do is re-teach the basics which they feel public schools should teach.

For example, General Motors recently found it necessary to teach courses in reading and arithmetic at its Rochester, New York plant. The result was a 15% reduction in the cost of plant operations--ample evidence that employees had not been taught these basic learning skills within the public schools.

On the other hand, it is very difficult for public schools to teach the basic skills if students do not see the relevance of what they are learning. Students need to apply what they learn, and learn what they need to know by recognizing how their studies will be applied in the future.

Further, as Mortimer Adler says:

. . . boys and girls alike should participate in a wide variety of manual activities, including typing, cooking, sewing, wood- and metalworking, crafts using other materials, automobile criving and repair, maintenance of electrical and other household equipment, and so on.

In [high school, students] . . . should receive instruction to prepare them for choosing and finding a career. This is not to be done by requiring them to make a premature choice of a job and by giving them training for that particular job. Rather, the young person should be introduced to the wide range of human work--the kinds of occupations and careers, their significance and requirements, their rewards and opportunities. (Adler, Mortimer, The Paideia Proposal. New York: Macmillan Publishing Co., Inc., 1962, p. 33.)

Thus, these three trends are now converging:

1. Vocational enrollment is declining due to an increase in academic requirements.
2. Employers increasingly want to provide their own vocational training to students who have mastered standard academic requirements since job-skills change so rapidly.
3. Contemporary academic curricula lack real-world applications due to the lack of hands-on methodology and the lack of real-world applied experience of faculty within their academic field.

It is now possible for school administrators to take advantage of these trends by utilizing vocational faculty within the academic curriculum. We propose a required course which would teach students needed practical skills. It would utilize instructors from the areas of agriculture, business, home economics, and industrial arts who have broad applied knowledge. Students would rotate from one instructor to the next every nine or eighteen weeks.

The few students now guided into vocational courses are the ones perceived as unfit for college preparatory classes. This is wrong! This practice prematurely directs students into a track, limiting student options, denying them access to academic knowledge which they will surely need in the future. On the other hand, the so-called college bound students need an understanding of the practical side of life. They wear clothes, eat meals, live in houses, and drive cars. They too need skills on the practical side of life and exposure to possible career choices.

Hence the course we have designed solves a number of administrative problems, while more importantly provides all students with practical skills and applied knowledge.

Utilizing the instructors and facilities found in agriculture, business, home economics, and industrial arts this course will:

1. Expose all students to knowledge and skills they will need in their everyday life which will help make them self-sufficient.
2. Expose students to vocational, career, and life skill knowledge which is not now being taught to the majority of students in academic structured classes.
3. Expose students to vocational fields.
4. Reinforce academic content through vocational, career, and life skill applications.
5. Show the need for academic skills when dealing with practical matters.

OBJECTIVES

Home maintenance

Students will learn to

- replace a light switch and plug outlet
- describe what a circuit breaker or fuse does
- replace the cord on a light fixture
- ground an appliance
- light a gas appliance
- find the shut-off water main at the street and house
- change the gaskets in a dripping faucet
- take apart and clean a sink drain trap
- assemble pipe joints
- saw a piece of wood at specified angles
- install common fasteners
- hang a picture
- use an electric saber saw, drill, and skillsaw
- identify and use common hand tools
- replace a window
- plaster a hole in a wall
- repair a roof
- install door locks
- prepare wall for painting
- identify types of paint
- paint utilizing different application methods
- care for a lawn and garden
- select and use pesticides
- maintain and repair an irrigation system

Meal preparation and clothing upkeep

Students will learn to

- shop economically
- weigh food commodities
- identify contents of a product
- follow a recipe
- plan nutritious meals using the basic food groups
- properly set a table
- prepare and serve a meal
- thread and operate a sewing machine
- sew on a button
- hem a garment
- mend a rip and a tear
- wash and dry clothing
- remove stains from clothing

OBJECTIVES (continued)

Auto maintenance

Students will learn to

- practice safety procedures in an auto shop area
- identify major car components and their functions
- use reference material in an automotive manual
- change oil and lube an automobile
- identify worn fan belts and radiator hoses
- identify symptoms of worn brakes
- identify symptoms of major engine problems

Personal finance

Students will learn to

- balance a bank book
- reconcile a bank statement
- prepare a personal budget
- figure pay check deductions
- fill out a 1040 EZ income tax form
- differentiate between various financial institutions, i.e. bank, savings and loan, and credit union
- identify types of insurance coverage
- identify investment options
- fill out a job application
- dress properly for an interview
- format a business letter

COURSE FORMAT

This course is to be structured so that a group of teachers will rotate a group of classes between them. Assuming there is need for four sections of the class, four teachers will be assigned to the course during the same period. They will then teach their section for a quarter before rotating students with the other teachers. By the end of the year each teacher will have taught the same section four times and all students will have been in each section once. This format is the most functional, although other options are possible. A single section may even be taught if a teacher taught all of the segments. This would most likely cause the teacher to teach outside his/her area of expertise, but in some small schools this may be necessary.

The total number of students enrolled in the course is the primary factor in determining the number of sections needed. To determine this, it must be clarified that this class is to be made a requirement for all students during their junior or senior year. If average class size is a desirable 20 to 24 students, then between 80 and 96 students will be taking this course from four instructors during one period.

STUDENT SCHEDULING

Fitting this course in a student's schedule is not a problem for the general education student since this course can be required in place of an elective. It can, however, cause a problem for the college prep student. A waiver for some of these students may be required, depending upon individual circumstances. For example, a student taking four years of science and four years of math, or a student taking four years of a fine art plus nearly four years of science and four years of math, might need a waiver.

Typical college prep schedule

Fresh.	Alg. 1	Eng. 1	Typing/Comp.	Elective	P.E. 1	Band
Soph.	Alg. 2	Eng. 2	W. History	Biology	P.E. 2	Band
Junior	Geometry	Eng. 3	U.S. History	Chem.	<u>Practical</u> <u>Vocational</u> <u>Skills</u>	Band
Senior	Analysis	Eng. 4	Government	Physics	Art	Band

CLOSING

Many schools with declining vocational student enrollment will benefit from this program. Vocational instructors and their facilities, through this approach, will be more effectively utilized.

While this is not the final solution to integrating academic and applied curricula, it is a positive step in that direction. It is likely that students will thereby leave high school with greater knowledge of the world of work, life skills, and a better understanding of the relevance of their academic course work.